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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/725,676

12/02/2003

Yakov Fleytman

5101

32452

7590

12/30/2005

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EXAMINER

COMPTON, ERIC B

ART UNIT

PAPER NUMBER

3726

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/725,676

Applicant(s)

FLEYTMAN, YAKOV

Examiner

Eric B. Compton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to: See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 1 and 17 are objected to because of the following informalities: both claims use the language "is being," which is a grammatically incorrect verb usage. Also, the "with" before "plunging" should read --by--. Furthermore, there should be an --a-- before "rotating tool." These are just a few problems with the claims, which appear to be a direct translation from a foreign language. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 17, are indefinite since the claim language is not clear enough to know whether Applicant wishes to claim a "product-by-process," see MPEP 2173.05(p)(for example "A face gear ... manufactured by ..."), or a process claim ("A method for manufacturing a face gear comprising [step], [step], etc..."). These claims structure formats direct the claims to different claim construction/interpretation. See MPEP 2112.02 (process claims); MPEP 2113 (product-by-process claims).

Claims 2-16 and 18-20 depend from claims 1 and 17, respectively, and therefore are also indefinite.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 4-8, 13-15 and 17-19, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. 3,145,621 to Ransom.

Regarding claims 1 and 17, Ransom discloses a method for manufacturing face gears having an enveloping pinion (Fig. 7) in a mesh engagement with a face gear (Fig. 8) where said enveloping pinion has less than one revolution of threads (see Fig. 7) wherein the pinion is machined by plunging of a rotating tool (Fig. 1-2) into an enveloping worm blank (21). See *also* U.S. Pat. 3,858,278 to Baxter, Jr. (showing similar invention).

Regarding claims 2, 4, and 17-18, as shown in Figures 4 and 7, the enveloping pinion has a thread revolution less than 180 degrees (half-rotation) and 90 degrees (quarter revolution).

Regarding claim 5, the tool is preliminarily feed in an angular direction to the axis of rotation followed by additional turning into desirable position for plunging. See Cols. 2-3, lines 67-12.

Regarding claims 6-7, the tool has a helical (screw) form.

Regarding claims 8, and 19, the tool is a hob.

Regarding claims 13 and 14-15, the tool has a concave shape, which can also be considered parabolic in shape, along its axis of rotation. See Figure 1.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Ransom in view of U.S. 2002/0165060 to Fleytman et al.

Ransom discloses the invention cited above, but does not teach that after plunging the worm blank is split into two pinions.

Fleytman discloses a method for manufacturing a pinion gear. Figure 7 shows a pinion gear worm blank that is machined. The pinion can be separated to form two pinions as shown in Figure 8. See [0045].

Regarding claim 3, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the gear of Ransom after plunging splitting the worm blank into two pinions, in light of the teachings of Fleytman, to presumably reduce machining and tool-set up steps thereby increasing efficiency.

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8. Claims 9-12, 14, 16, and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Ransom in view of U.S. Pat. 3,555,870 to Trembley and/or U.S. Pat. 1,759,333 to Wildhaber

Ransom discloses the invention cited above, but not explicitly the particulars claimed.

Trembley and Wilhamber discloses using roll dies and grinding wheel to form gear teeth.

Regarding claims 9-10 and 20, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the gear of Ramson using either a roll die or abrasive tool, in light of the teachings of Trembley and/or Wildhaber, in order to form gear teeth without machining. Substitution of equivalents, if recognized as equivalents in the prior art, is *prima facie* obvious. *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958).

Regarding claims 11, 12, 14, and 16, the other claimed pinion shapes are recognized in the art for different transmission designs. See *e.g.*, U.S. 2002/0165060 to Fleytman et al (showing convex pinion); U.S. Pat. 4,798,077 to Douglas (Figure 2A showing ball shaped pinion); U.S. Pat. 2,961,888 to Wildhaber (showing tapered pinion); U.S. Pat. 2,711,673 to Miller (showing cylindrical pinion). The shape of the pinion inherently requires a complementary forming tool, suitably shaped. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the gear of Ramson having a particular shape (by a particularly shaped

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forming tool), in light of the teachings of Ransom (and other cited prior art), in order to form conventionally shaped pinions for transmissions.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Compton whose telephone number is (571) 272-4527. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Eric B. Compton